

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions, and listings of the claims in the application:

1. (Currently Amended) A method of upgrading a pressure generating system comprising:

providing a pressure generating system including (a) a pressure generator adapted to generate a flow of breathing gas, and (b) a controller that controls operation of the pressure generator, (c) a memory storing a first operating routine, wherein the controller control operation of the pressure generator according to a-the first operating routine and a user defined setting executed by the controller, wherein a first set of operating features of the pressure generating system is determined based on the first operating routine, and wherein an internal access key is associated with each set of operating features of the pressure generating system;

providing an external device adapted to communicate with the controller;
establishing a communication link between the external device and the controller;
inputting an external access key to the external device;
comparing the internal access key provided by the pressure generating system with the external access key;

enabling upgrading of the pressure generating system by enabling the first operating routine to be modified responsive to the internal access key matching the external access key;

upgrading the pressure generating system by replacing the first operating routine with a second operating routine and causing the controller to execute a-the second operating routine so that the pressure generating system operates according to a second set of operating features and the user defined setting;

maintaining a database for a plurality of pressure generating systems external to the pressure support systems, wherein the database includes (a) a product identifier serial number unique to each pressure generating system in the plurality of pressure systems, (b) one or more

operating routines available to each pressure generating system in the plurality of pressure generating systems, and (c) external access keys associated with each of the one or more operating routines; and

updating the database by assigning a new ~~product identifier~~serial number for an upgraded pressure generating system.

Claim 2. (Cancelled).

3. (Previously Presented) The method of claim 1, wherein upgrading the pressure generating system includes providing the second operating routine from the external device to the controller.

4. (Previously Presented) The method of claim 1, wherein the first set of operating features includes a first pressure support mode, and wherein the second set of operating features includes a second pressure support mode.

5. (Previously Presented) The method of claim 4, wherein (a) the first pressure support mode is a bi-level pressure support mode, and the second pressure support mode is a bi-level pressure support mode with a timed backup breath delivery capability, or (b) the first pressure support mode is a continuous positive airway pressure (CPAP) support mode and the second support mode is a variable positive airway pressure support mode in which the pressure delivered to the patient varies between inspiration and expiration.

6. (Original) The method of claim 1, wherein establishing the communication link includes providing a hard wired connection between the external device and the controller.

7. (Original) The method of claim 1, wherein inputting the external access key to the external device includes manually entering the external access key into the external device

via a keypad associated with the external device, or reading the external access key from a memory associated with the external device.

8. (Original) The method of claim 1, further comprising downloading the external access key to the controller responsive to the internal access key being input to the external device, and wherein comparing the internal access key with the external access key takes place in the controller.

9. (Previously Presented) The method of claim 1, wherein each internal access key associated with each set of operating features of the pressure generating system is (1) generated by the controller based on an access key generating algorithm each time the comparing step is to be performed, or (2) stored in advance in a memory in the pressure generating system and recalled from the memory each time the comparing step is to be performed.

Claim 10. (Cancelled).

11. (Previously Presented) The method of claim 1, wherein each internal access key associated with each set of operating features of the pressure generating system is generated by the controller based on an access key generating algorithm each time the comparing step is to be performed, and further comprising storing the external access key in the pressure generating system as a new internal access key, and causing the controller to generate the new internal access key in a subsequent access key validation process.

12. (Currently Amended) A pressure generating system upgrading system, comprising

a pressure generating systems including (a) a pressure generator adapted to generate a flow of breathing gas, and (b) a controller that controls operation of the pressure generator, according to a first operating routine executed by the controller and (c) a memory

associated with the controller that stores ~~the-a first~~ operating routine, wherein the controller control operation of the pressure generator according to the first operating routine and a user defined setting, wherein a first set of operating features of the pressure generating system is determined based on the first operating routine, and wherein an internal access key is associated with each set of operating features of the pressure generating system;

an external device adapted to communicate with the controller via a communication link between the external device and the controller, wherein the external device is adapted to receive an external access key, and wherein the controller or the external device compares the internal access key of the pressure generating system with the external access key and upgrades the pressure generating system by ~~modifying-replacing~~ the first operating routine with a second operating routine responsive to the internal access key matching the external access key; and

a database for a plurality of pressure generating systems, wherein the database includes (a) a ~~product identifier~~serial number unique to each pressure generating system in the plurality of pressure systems, (b) one or more operating routines available to each pressure generating system in the plurality of pressure generating systems, and (c) external access keys associated with each of the one or more operating routines, and wherein the database is updated to assign a new ~~product identifier~~serial number for an upgraded pressure generating system.

Claim 13. (Cancelled).

14. (Currently Amended) The system of claim 12, wherein the controller is adapted to receive ~~a-the~~ second operating routine from the external device responsive to the external access key matching the internal access key, and wherein the controller thereafter executes the second operating routine causing the pressure support system to operate according to ~~a-the~~ second set of operating features.

15. (Previously Presented) The system of claim 14, wherein (a) the first set of operating features corresponds to a bi-level pressure support mode, and the second set of operating features corresponds to a bi-level pressure support mode with a timed backup breath delivery capability or (b) the first pressure support mode is a continuous positive airway pressure (CPAP) support mode and the second support mode is a variable positive airway pressure support mode in which the pressure delivered to the patient varies between inspiration and expiration.

16. (Original) The system of claim 12, wherein the communication link is a hard wired connection between the external device and the controller.

17. (Original) The system of claim 12, wherein the external device includes a keypad by which the external access key is manually entered into the external device.

18. (Original) The system of claim 12, wherein the external device is adapted to download the external access key to the controller, and wherein comparing the internal access key with the external access key takes place in the controller.

19. (Original) The system of claim 12, wherein the controller is adapted to generate each internal access key associated with each set of operating features of the medical based on an access key generating algorithm executed by the controller each time an access key validation is required.

Claims 20 and 21. (Cancelled).

22. (Currently Amended) A pressure generating system upgrading system comprising:

(a) a pressure generating system including:

(1) a pressure generator adapted to generate a flow of breathing gas,
(2) processing means for controlling at least one operation of the pressure generator according to a first operating routine executed by the processing means and a user defined setting, and

(3) memory means, associated with the processing means, for storing the first operating routine, wherein a first set of operating features of the pressure generating system is determined based on the first operating routine, and wherein an internal access key is associated with each set of operating features of the pressure generating system;

(b) an external device adapted to communicate with the processing means via a communication link between the external device and the processing means, wherein the external device includes means for receiving an external access key, wherein the processing means or the external device includes means for comparing the internal access key of the pressure generating system with the external access key and for upgrading the pressure generating system by replacing modifying the first operating routine with a second operating routine responsive to the internal access key matching the external access key; and

(c) a database for a plurality of pressure generating systems, wherein the database includes (1) a ~~product identifier~~serial number unique to each pressure generating system in the plurality of pressure systems, (2) one or more operating routines available to each pressure generating system in the plurality of pressure generating systems, and (3) external access keys associated with each of the one or more operating routine, and wherein the database is updated to assign a new ~~product identifier~~serial number for an upgraded pressure generating system.

Claim 23. (Cancelled).

24. (Currently Amended) The system of claim 22, wherein the processing means is adapted to receive ~~a~~the second operating routine from the external device responsive to the external access key matching the internal access key, and wherein the processing means

thereafter executes the second operating routine causing the pressure support system to operate according to a second set of operating features.

25. (Previously Presented) The system of claim 24, wherein (a) the first set of operating features corresponds to a bi-level pressure support mode, and the second set of operating features corresponds to a bi-level pressure support mode with a timed backup breath delivery capability or (b) the first pressure support mode is a continuous positive airway pressure (CPAP) support mode and the second support mode is a variable positive airway pressure support mode in which the pressure delivered to the patient varies between inspiration and expiration.

26. (Original) The system of claim 22, wherein the communication link is a hard wired connection between the external device and the processing means.

27. (Original) The system of claim 22, wherein the external device includes a keypad by which the external access key is manually entered into the external device.

28. (Original) The system of claim 22, wherein the external device is adapted to download the external access key to the processing means, and wherein comparing the internal access key with the external access key takes place in the processing means.

29. (Original) The system of claim 22, wherein the processing means is adapted to generate each internal access key associated with each set of operating features of the medical based on an access key generating algorithm executed by the processing means each time an access key validation is required.

Claims 30. (Cancelled).

31. (Currently Amended) The system of claim 3022, wherein the processing means generates each internal access key associated with each set of operating features of the pressure generating system based on an access key generating algorithm each time an access key validation process is to be performed, stores the external access key in the ~~pressure generating system~~memory as a new internal access key, and generates the new internal access key in a subsequent access key validation process.

32. (Currently Amended) A method of processing and tracking an upgrade of a pressure generating system, comprising:

identifying a pressure generating system to be upgraded;

providing an upgrade request from an upgrade requester to a pressure generating system supplier, wherein the upgrade request includes a first ~~product identifier~~serial number associated with the pressure generating system to be upgraded and a requested upgrade of the pressure generating system;

maintaining a database for a plurality of pressure generating systems, available to the pressure generating system supplier, wherein the database includes (a) the first ~~product identifier~~serial number for each pressure generating system in the plurality of pressure generating systems, (b) one or more upgrades available to each pressure generating system in the plurality of pressure generating systems, and (c) an external access keys associated with both the pressure generating system and an available upgrade from the one or more for that pressure generating system;

accessing the database, by the pressure generating system supplier, to determine an external access key associated with both the pressure generating system to be upgraded and the requested upgrade;

providing the external access key to the pressure generating system;

comparing the external access key with an internal access key associated with the pressure generating system;

upgrading the pressure generating system responsive to the internal access key matching the external access key; and

updating the database to indicate that the pressure generating system having the first ~~product identifier~~serial number has been upgraded with the desired upgrade by assigning a new ~~product identifier~~serial number for an upgraded pressure generating system.

33. (Previously Presented) The method of claim 32, wherein providing the external access key to the pressure generating system includes providing the desired upgrade to the upgrade requester via a distribution media or a electronic communication link.

34. (Original) The method of claim 33, wherein providing the external access key and the desired upgrade includes providing the external access key on a first medium and providing the desired upgrade on a second medium.

35. (Previously Presented) The method of claim 32, wherein comparing the external access key with an internal access key takes place in the pressure generating system to be upgraded.

36. (Currently Amended) The method of claim 32, wherein updating the database includes providing a second ~~product identifier~~serial number associated with the pressure generating system.

37. (Previously Presented) The method of claim 32, wherein the pressure generating system includes a controller that controls operation of the pressure generating system according to an operating routine executed by the controller, wherein a set of operating features of the pressure generating system is determined based on the operating routine, wherein the internal access key is associated with each set of operating features of the pressure generating system; and

wherein providing the external access key to the pressure generating system comprises:

providing an external device adapted to communicate with the controller,
establishing a communication link between the external device and the
pressure generating system, and
inputting an external access key to the external device.

38. (Previously Presented) The method of claim 37, further comprising, after the enabling step, upgrading the pressure generating system by providing an upgraded operating routine from the external device to the controller, wherein the controller thereafter executes the upgraded operating routine causing the pressure generating system to operate according to an upgraded set of operating features.

39. (Previously Presented) The method of claim 38, further comprising providing the upgraded set of operating features to the external device from the pressure generating system supplier.

40. (Previously Presented) The method of claim 38, wherein each internal access key associated with each set of operating features of the pressure generating system is generated by the controller based on an access key generating algorithm each time the comparing step is to be performed, and further comprising storing the external access key in the pressure generating system as a new internal access key, and causing the controller to generate the new internal access key in a subsequent access key validation process.

41. (Previously Presented) The method of claim 37, wherein the pressure generating system is a pressure support system comprising a pressure generating system adapted to generate a flow of breathing gas, wherein the controller executes a first operating routine to

control the operation of the pressure generating system according to a first set of operating features.

42. (Previously Presented) The method of claim 41, further comprising, after the enabling step, upgrading the pressure generating system by providing a second operating routine from the external device to the controller, wherein the controller thereafter executes the second operating routine causing the pressure support system to operate according to a second set of operating features.

43. (Original) The method of claim 42, wherein the first set of operating features includes a first pressure support mode, and wherein the second set of operating features includes a second pressure support mode.

44. (Original) The method of claim 43, wherein (a) the first pressure support mode is a bi-level pressure support mode, and the second pressure support mode is a bi-level pressure support mode with a timed backup breath delivery capability or (b) the first pressure support mode is a continuous positive airway pressure (CPAP) support mode and the second support mode is a variable positive airway pressure support mode in which the pressure delivered to the patient varies between inspiration and expiration.

45. (Original) The method of claim 37, wherein establishing a communication link includes providing a hard wired connection between the external device and the controller.

46. (Original) The method of claim 37, wherein inputting an external access key to the external device includes manually entering the external access key into the external device via a keypad associated with the external device, or reading the external access key from a memory associated with the external device.

47. (Original) The method of claim 37, wherein comparing the internal access key with the external access key takes place in the controller.

48. (Previously Presented) The method of claim 37, wherein each internal access key associated with each set of operating features of the pressure generating system is (1) generated by the controller based on an access key generating algorithm each time the comparing step is to be performed, or (2) stored in advance in the pressure generating system and recalled from memory each time the comparing step is to be performed.

49. (Currently Amended) A method for a pressure generating system supplier to process and track an upgrade of a pressure generating system:

receiving, from an upgrade requester, an upgrade request including first product identifierserial number associated with the pressure generating system and a desired upgrade;

maintaining a database for a plurality of pressure generating systems, available to the pressure generating system supplier, wherein the database includes (a) the first product identifierserial number for each pressure generating system in the plurality of pressure generating systems, (b) one or more upgrades available to each pressure generating system in the plurality of pressure generating systems and (c) an external access keys associated with both the pressure generating system and an available upgrade from the one or more upgrades for that pressure generating system;

accessing the database, by the pressure generating system supplier, responsive to receiving the upgrade request, to determine an external access key associated with both the pressure generating system to be upgraded and the desired upgrade based on the first product identifierserial number;

providing, from the pressure generating system supplier to the upgrade requester, the external access key associated with the pressure generating system and the desired upgrade so that the upgrade requester can introduce the upgrade to the pressure generating system responsive

to the external access key matching an internal access key associated with the pressure generating system; and

 updating the database to indicate that the pressure generating system has been upgraded with the desired upgrade by assigning a new ~~product identifier~~serial number for an upgraded pressure generating system.

50. (Original) The method of claim 49, wherein providing the external access key and the desired upgrade includes providing the external access key in a first medium and the desired upgrade in a second medium.

51. (Currently Amended) The method of claim 49, wherein updating the database includes providing a second ~~product identifier~~serial number associated with the pressure generating system.